A certain number of parthenogenetic females become hermaphrodites by the production of sperm in parts of the ovaries. It is possible that their transformation may continue until in some cases, the developing eggs being completely resorbed, the whole gland becomes a testis, and adult males are thus rapidly produced. At the same time, it is more probable that the true males are developed, under the influence of the same unfavourable conditions, out of younger specimens not yet sexually ripe.

The whole subject of hermaphroditism in the animal kingdom is one of vast interest and deserves a special study. The Apodidæ promise to yield useful results, inasmuch as they could be experimented upon as Kurz (*loc. cit.*) experimented with Cladocera. Indeed, the experiments of Kurz with Cladocera might themselves be profitably repeated, and individual specimens be carefully examined by the most recent methods of fixing and staining. Much welcome light might be thrown in this way upon the whole subject. In the meantime, in view of the fact that the majority of Apodidæ which come into the hands of students are parthenogenetic females and that the hermaphrodite specimens here described are as yet unique, Professor Howes has kindly consented to my depositing the slides in the Huxley Research Laboratory at the Royal College of Science, South Kensington, where they can be examined by any one interested in the subject.

EXPLANATION OF PLATES XI. & XII.

[The detailed explanation of the figures will be found in the text.]

Figs. 1, 2. The sperm-forming portion of the genital gland of *Lepidurus glacialis*, var. *spitzbergensis* (see pp. 298–299).
Figs. 3, 4. Ditto of *Lepidurus glacialis* (see pp. 299–300).
Figs. 5, 5 *a*. Sperm-formation in the genital gland of a specimen of *Lepidurus productus* (see pp. 300–301).
Fig. 5 *b*. Portion of duct of same.
Figs. 6–10. Sperm-formation in a specimen of *Apus cancriformis* (see pp. 301–303).

XLI.—*Descriptions of new Fishes from the Upper Congo.* By G. A. Boulenger, F.R.S.

The new fishes here described were contained in a small collection made some 50 miles south of Mangala by Mr. J. H. Weeks and presented by him to the British Museum. The known species are the following:—*Hemichromis fasciatus*,

Ptrs.; *H. bimaculatus*, Gill; *Lamprologus congoensis*, Schilth.; *Channalabes apus*, Gthr.; *Schilbe mystus*, C. & V.; *Alestes leuciscus*, Gthr.; *Pellonula vorax*, Gthr.; *Notopterus nigri*, Gthr.; *Tetrodon fahaka*, Forsk.; *Polypterus palmas*, Ayres*. The specimens (three young, one with external gills) of *Polypterus palmas*, a species which I have previously recorded from the Congo, are interesting for the number of dorsal finlets, which varies from five to seven.

Ctenopoma Weeksii, sp. n.

D. XVI 8. A. IX 9. Sc. 28 $\frac{3}{8}$; l. l. $\frac{15}{10}$.

No palatine teeth. Depth of body equal to length of head, $2\frac{2}{3}$ in total length. Snout $\frac{3}{4}$ diameter of eye, which is $3\frac{2}{3}$ in length of head and equals interorbital width; lower jaw projecting; maxillary extending to below anterior fifth of eye; opercle notched, with four small spines above and two below. Dorsal originating above base of pectoral and extending to caudal; spines subequal, as long as the eye. Brown, with irregular whitish spots and a large black blotch in the middle of the side; two oblique dark brown streaks behind the eye, the upper ascending to the upper border of the opercle, the lower descending to the angle of the præopercle; ventrals black; lower surface of head and breast silvery, with brown spots.

Total length 60 millim.

A single specimen.

Pelmatochromis Guentheri, sp. n.

D. XVI 12. A. III 7. Sc. 32 $\frac{4}{2}$ $\frac{}{8}$; l. l. $\frac{23-24}{28-29}$.

Three series of minute teeth in the jaws, the outer series largest. Depth of body $2\frac{2}{5}$ in total length, length of head 3 times. Snout $1\frac{1}{3}$ diameter of eye, which is $3\frac{1}{4}$ in length of head and equals interorbital width; maxillary extending to below the nostril; four series of scales on the cheek. Dorsal originating above opercular cleft; spines subequal, half as long as the head. Third anal spine longest, longer than dorsals. Pectoral falciform, as long as the head. Ventral reaching anal. Upper lateral line ending below the last dorsal rays; lower extending from the shoulder to the

* Also a turtle not previously recorded from the Congo: *Cycloderma frenatum*, Ptrs.

caudal, on which it is produced in three branches. Uniform pale brownish; dorsal membrane checkered with brown and white spots.

Total length 107 millim.

A single specimen.

Mastacembelus congicus, sp. n.

Depth of body 9 times in total length, length of head 6 times. Snout thrice as long as diameter of eye, ending in a dermal appendage which is twice as long as the eye; cleft of mouth extending hardly to below nostril; two strong spines at angle of præopercle. Vertical fins united with the rounded caudal. Dorsal XXVII 45, its distance from the head nearly equal to the length of the latter. Anal I 45. Pectoral $\frac{1}{3}$ length of head. 25 scales between origin of soft dorsal and lateral line. Brown, marbled with darker, with a lateral series of black blotches; soft dorsal with oblique dark and light lines; anal dark brown, with a white edge and a series of 11 large round white spots at the base.

Total length 250 millim.

A single specimen.

The four species hitherto recorded from the Congo differ abundantly in the number of dorsal and anal rays:—

M. cryptacanthus, Gthr.	D. XXIV 100, A. II 100
M. Marchii, Sauv.	D. XXIII 75, A. II 76
M. niger, Sauv.	D. XXVII 82, A. II 65
M. marmoratus, Perugia	D. XXX 85, A. II 70

Clarias Dolloi, sp. n.

Vomerine band of villiform teeth as broad as the præmaxillary band. Head smooth, finely granulate behind, about once and a half as long as broad, $3\frac{1}{2}$ to 4 times in total length; occipital process angular; diameter of eye 3 times in length of snout, 5 or 6 times in interorbital width; nasal barbels as long as the head, maxillary once and a half. Dorsal 70–75. Anal 55–60. Caudal free. Uniform dark brown. The largest specimen is a pied albino, yellowish white spotted with dark brown.

Total length 250 millim.

Three specimens.

Allied to *C. macromystax*, Gthr., but vomerine teeth forming a narrower band.

Named in honour of my distinguished colleague and friend M. Dollo, of the Brussels Museum.